

## China to Double Natural Gas Demand in Five Years

By Winnie Zhu  
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**SHANGHAI** (Interfax-China) -- China's natural gas demand, which currently accounts for just 3% of the national total demand for energy, is expected by the National Development and Reform Commission (NDRC) to rise to 6% to 8% during the next five years, according to information released this week.

"Annual natural gas consumption will hit 100 billion cubic metres by the end of the Eleventh Five Year Plan period [2006-2010] under the increasing demand. The natural gas demand will account for 6% to 8% of the country's total energy demand by then," *China Securities Journal* quoted an anonymous source with the National Development and Reform Commission as saying.

The country's present annual natural gas consumption stands at around 40 billion cubic metres, accounting for 3% of total energy consumption.



The gas pipeline from Shanxi to Beijing. Image: Interfax

China has launched a number of ambitious infrastructure projects in recent years aimed at taking advantage of natural gas resources both within China and overseas, and has also been aggressively developing gas fields in Xinjiang, Sichuan, the Ordos Basin and the East China Sea.

While almost all of China's consumption is currently met by domestic supplies, nearly half of the new demand in China will depend on imports. Imports from Southeast Asia, Australia and the Middle East will account for a third of national consumption by 2010, according to *China Securities Journal*.

China has already signed a massive LNG supply contract with Iran. On May 14 this year, the Middle Eastern country signed an agreement to export 188 million tonnes of LNG to China over the next 25 years.

Meanwhile, the China National Offshore Oil Corporation (CNOOC), the China National Petroleum Corporation (CNPC) and the China Petrochemical Corporation (Sinopec) are all busy securing deals across China's eastern coast to construct gas terminals, pipeline networks and power stations, with the first large-scale shipments of LNG due to begin, from Indonesia, in 2006.

"Because of environmental requirements, natural gas demand will soar in the coming years," Huang Meilong, a senior oil and gas analyst with Shenyin Wanguo, told *Interfax*.

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Reception station in Shanghai. Image: Interfax

Indeed, Beijing has already converted its winter heating system to natural gas, and had to deal with severe shortages last winter. Shanghai, too, is phasing out coal consumption in the city and replacing it with natural gas delivered from western China and the East China Sea. Several other cities close to Shanghai, including Changzhou in Jiangsu Province, have already converted all residences from coal gas to natural gas pumped in through the West-East Pipeline (WEP).

### Natural gas statistics for first six months of 2005

Item	H1 in 2005 (bln cu ms)	H1 in 2004 (bln cu ms)	Growth volume (bln cu ms)	Growth rate (%)
Output	23.853	19.927	3.926	19.7
Import	0.0003	0	0.0003	-
Export	0.0009	0.0007	0.0002	28.6
Demand	23.8524	19.9263	3.9261	19.7

Source: China Securities Journal

*China Securities Daily* said that the increase in natural gas supply over the next five years will be arise from the WEP and from LNG imports to Guangdong and Fujian.

The WEP Project, with a designed annual gas transmission volume of 12 billion cubic metres, has already been put into operation, and will deliver about 4 billion cubic metres to eastern markets next year. Its operator, CNPC, is considering building a second pipeline running parallel with the first. There are further plans to develop the gas pipeline infrastructure connecting western China to the east, enabling gas from Sichuan and Chongqing to be delivered to markets in Guangdong.

The LNG import terminal in Guangdong will become operational in 2006, while the first phase of the Fujian terminal will start operations in 2007 and be fully completed by 2012. The annual gas supply of these two projects will reach 7-8 billion cubic metres. Terminals are also being built in Shanghai, Tianjin, Qingdao and others.

Plans are also being considered to build natural gas pipelines from Kazakhstan and from Russia's Sakhalin.

According to predictions by the country's biggest gas producer, CNPC, demand for natural gas will reach about 110 billion cubic metres in 2010, 155 billion cubic metres in 2015, and 210 billion cubic metres in 2020. By 2020, natural gas will account for 12% of the country's total primary energy supply.

However, the forecasts of the International Energy Agency (IEA) are more modest, suggesting a 60 billion cubic metres demand in 2010 and about 110 billion cubic metres by 2010.

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According to the IEA, China will still require a cumulative investment of \$100 billion in its natural gas supply infrastructure over the 2001-2030 period. However, it will remain a relatively "marginal fuel" in China's overall consumption structure. Most of the natural gas infrastructure is designed to serve China's eastern coast, but coal will still continue to dominate in large parts of the country.

### Some of China's big natural gas projects

Project	Date Launched	Date Completed	Designed Capacity	Total investment	Notes
The West-East Pipeline Project	2002	2004	12 bln cu m/year	\$18 bln*	Delivers natural gas 4,200 km from Xinjiang to Shanghai; launched by PetroChina. Plans are being considered to build a second pipe. Delivers domestic gas, but could be connected to Kazakh supplies in the future.
Shaanxi-Beijing Phase 2	2003	July 2005	12 bln cu m/year		CNPC already delivers about 3 bln cu m to Beijing from Shaanxi through the first phase, and the second pipe has already finished construction.
Hainan LNG Project	2005	2009 (phase 1)	2 mln tons/year	\$1 bln	CNOOC will build terminals and power plants to further develop natural gas industry in Hainan. Although significant gas reserves surround the island and support much of its industry, additional LNG will be imported
Qinhuangdao LNG Project	2005	2010	3 mln tons LNG/year	\$1.6 bln	Co-invested by CNOOC and China Power Investment on the east coast of Hebei Province. Includes terminal and power plants.
Guangdong Natural Gas Terminal	2002	2006 (phase 1)	4 mln tons LNG/year	\$3 bln	Backed by CNOOC. Set to receive natural gas from Australia's Northwest Shelf.
Zhejiang Natural Gas Terminal	2003		3 mln tons LNG/year	\$1.7 bln	Built by CNOOC with the Zhejiang Provincial Government. Also includes pipelines and power stations.
Fujian Natural Gas Terminal	2003	2012	5 mln tons LNG/year	\$3 bln	Terminals, pipelines and gas-fired power plants included in the total investment. LNG to be delivered from Indonesia. 60% owned by CNOOC.
Caofeidian Natural Gas Terminal	H2 2005	2010	10 mln tons LNG/year	\$1 bln	Co-invested by CNPC in Hebei. To connect with Shaanxi-Beijing pipeline and supply the capital.
Nantong LNG Project	2005	2009	14,600 tons LNG/day	\$2 bln	Co-invested by CNPC. Includes reception stations, pipelines and power plants in eastern coastal Jiangsu Province.

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